

Quiz: Expand and Simplify

a) $(x-3)(x+6)$

b) $(2x-4)(3x+3)$

c) $(x+6)^2$

Oct 16-8:57 PM

Common Factors

Factor the number 40.

$$40 = \underline{\hspace{2cm}}$$

What does it mean to factor?

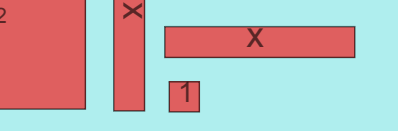
Represent as a product of prime factors.

1. Using a Model (e.g., alge-tiles)


Model the expression as an area. The lengths of the sides are factors.

Some factors can be reduced further. Repeat this process until no factors can be reduced.

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$x^2 + 2x + 1$




$x^2 + 2x + 1$


Factor: $3x^2 + 2x$



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Red tiles: x^2 , x , 1 , x , 1

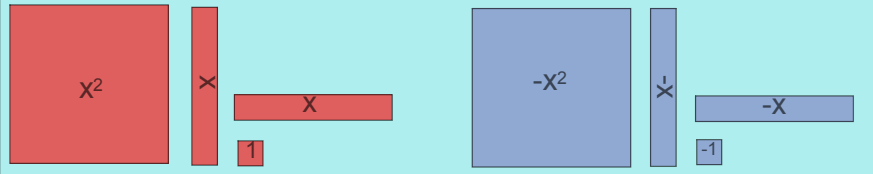


Blue tiles: $-x^2$, $-x$, -1 , $-x$, -1

Factor: $2x^2 + 4x$



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Factor: $2x^2 + 4x$

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2. Factor Algebraically

Look for the Greatest Common Factor of the coefficients and the GCF of the variables.

Ex.1 Factor: $8x^3 - 6x^2y^2 + 4x^2y$

The GCF of 8, 6, and 4 is _____.

The GCF of x^3 , x^2y^2 , and x^2y is _____.

$8x^3 - 6x^2y^2 + 4x^2y =$ _____

$=$ _____

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3. Factoring by Grouping

Some polynomials do not have common factors in all terms. They ~~can~~sometimes be factored by grouping terms with common factors.

Ex.2 Factor: $ac + bc + ad + bd$

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Factor

a) $5x + 25$

b) $24xy^2 + 16x^2y$

c) $5x(a+b) + 3(a+b)$

d) $3t(x-y) - (x+y)$

e) $m^2 - 4n + 4m - mn$

f) $5m^2t - 10m^2 + t^2 - 2t$

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Assigned Work:

p.202-203 # 1, 3bd, 5bc, 6def, 7, 8, 9, 10

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